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#8

In re Application of:

Alberto I. Roca

Serial No. 09/358,103

Filed: 07/21/1999

For: Mutants of MAW Motifs of  
RecA Protein Homologs, Methods  
of Making Them, and Their Uses

Group Art Unit: 1652

Examiner: R.A. Wax

Atty. Docket: ROCA-01

**Declaration of Alberto I. Roca**

I declare that the information recorded in computer readable form submitted with this amendment is identical to the written sequence listing. This amended listing contains no new matter over the content of the original application specification.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date

1/13/00

Alberto I. Roca



SEQUENCE LISTING

<110> Roca, Alberto I

<120> Mutants of MAW Motifs of RecA Protein Homologs, Methods  
of Making Them, and Their Uses

<130> RecA Homolog Protein & Mutants

<140> 09/358,103

<141> 1999-07-21

<150> 60/094,071

<151> 1998-07-24

<160> 3

<170> PatentIn Ver. 2.0

<210> 1

<211> 26

<212> PRT

<213> Escherichia coli

<220>

<221> NON\_TER

<222> (1)

<220>

<221> NON\_TER

<222> (26)..)

<220>

<221> HELIX

<222> (6)..(12)

<223> Alpha-helix B

<220>

<221> STRAND

<222> (22)..(26)

<223> Beta-strand 1

<220>

<221> SIMILAR

<222> (1)..(26)

<223> This structure is highly conserved across  
bacterial RecA and homologous eukaryotic,  
archaeal, and viral proteins; sequence below is

from E. coli RecA positions 40-65

<400> 1

Ile Ser Thr Gly Ser Leu Ser Leu Asp Ile Ala Leu Gly Ala Gly Gly  
1 5 10 15

Leu Pro Met Gly Arg Ile Val Glu Ile Tyr  
20 25

<210> 2

<211> 26

<212> PRT

<213> Escherichia coli

<220>

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<222> (1)

<220>

<221> NON\_TER

<222> (26)

<220>

<221> HELIX

<222> (6)..(12)

<223> Alpha-helix B

<220>

<221> STRAND

<222> (22)..(26)

<223> Beta-strand 1

<220>

<221> SIMILAR

<222> (1)..(26)

<223> Non 'Xaa' residues are the invariant MAW-motif  
residues in RecA and its homologs

<220>

<221> SITE

<222> (1)

<223> This site is not invariant across RecA homologs  
and has observed to contain Ile, Phe, Met, Thr,  
Val, Tyr, or Leu

<220>

<221> SITE

<222> (2)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ser, Gly, Lys,  
 Pro, Thr, or Arg

<220>  
 <221> SITE  
 <222> (3)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Thr, Ser, or Trp

<220>  
 <221> SITE  
 <222> (4)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Gly, Arg, Ala,  
 Lys, Asn, or Gln

<220>  
 <221> SITE  
 <222> (5)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ser, Ala, Cys,  
 Ile, Asn, Asp, or Phe

<220>  
 <221> SITE  
 <222> (6)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Leu, Ile, Thr,  
 Val, Tyr, Lys, Gln, Asp, Pro, or Arg

<220>  
 <221> SITE  
 <222> (7)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ser, Ala, Asp,  
 Gly, Leu, Met, Thr, Val, Tyr, Glu, Asn, or Gln

<220>  
 <221> SITE  
 <222> (8)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Leu, Ile, Val,  
 Phe, or Met

<220>  
 <221> SITE

<222> (9)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Asp or Asn

<220>  
 <221> SITE  
 <222> (10)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ile, Ala, Glu,  
 Gly, Leu, Asn, Gln, Arg, Ser, Thr, Val, Lys, or  
 Asp

<220>  
 <221> SITE  
 <222> (11)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ala, Ile, Leu, or  
 Val

<220>  
 <221> SITE  
 <222> (12)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Leu, Met, or Thr

<220>  
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 <222> (13)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Gly, Gln, Ala,  
 Asn, or Ser

<220>  
 <221> SITE  
 <222> (14)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ala, Ile, Ser,  
 Thr, Val, Gly, or Leu, and this site is not  
 present in some homologs

<220>  
 <221> SITE  
 <222> (17)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Leu, Phe, Ile,  
 Val, Tyr, or Met

<220>

<221> SITE  
 <222> (18)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Pro, Glu, Met,  
 Phe, Gln, Arg, or Val

<220>  
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 <222> (19)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Met, Gly, Lys,  
 Arg, Thr, Ala, Pro, or Ser

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 <222> (20)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Gly, Leu, Met,  
 Ala, His, Gln, or Arg

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 <221> SITE  
 <222> (21)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Arg, Gln, Ser,  
 Gly, Thr, or Val

<220>  
 <221> SITE  
 <222> (22)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ile, Val, Ala,  
 Leu, or Met

<220>  
 <221> SITE  
 <222> (23)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Val, Ile, Thr, or  
 Tyr

<220>  
 <221> SITE  
 <222> (25)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Ile, Val, Ala,  
 Leu, Met, or Phe

<220>  
 <221> SITE  
 <222> (26)  
 <223> This site is not invariant across RecA homologs  
 and has been observed to contain Tyr, Phe, Ala,  
 Gly, or Val

<400> 2  
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly  
 1 5 10 15  
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Xaa Xaa  
 20 25

<210> 3  
 <211> 26  
 <212> PRT  
 <213> Escherichia coli

<220>  
 <221> NON\_TER  
 <222> (1)

<220>  
 <221> NON\_TER  
 <222> (26)

<220>  
 <221> HELIX  
 <222> (6)..(12)  
 <223> Alpha-helix B

<220>  
 <221> STRAND  
 <222> (22)..(26)  
 <223> Beta-strand 1

<220>  
 <221> SIMILAR  
 <222> (1)..(26)  
 <223> Non "Xaa" residues are the invariant and  
 semiconservative elements of the MAW motif in RecA  
 and its homologs

<220>  
 <221> SITE  
 <222> (2)

<223> This site is neither invariant nor  
semiconservative across RecA homologs and has been  
observed to contain Ser, Gly, Lys, Pro, Thr, or  
Arg

<220>

<221> SITE

<222> (5)

<223> This site is neither invariant nor  
semiconservative across RecA homologs and has been  
observed to contain Ser, Ala, Cys, Ile, Asn, Asp,  
or Phe

<220>

<221> SITE

<222> (6)

<223> This site is neither invariant nor  
semiconservative across RecA homologs and has been  
observed to contain Leu, Ile, Thr, Val, Tyr, Lys,  
Gln, Asp, Pro, or Arg

<220>

<221> SITE

<222> (7)

<223> This site is neither invariant nor  
semiconservative across RecA homologs and has been  
observed to contain Ser, Ala, Asp, Gly, Leu, Met,  
Thr, Val, Tyr, Glu, Asn, or Gln

<220>

<221> SITE

<222> (10)

<223> This site is neither invariant nor  
semiconservative across RecA homologs and has been  
observed to contain Ile, Ala, Glu, Gly, Leu, Asn,  
Gln, Arg, Ser, Thr, Val, Lys, or Asp

<220>

<221> SITE

<222> (13)

<223> This site is neither invariant nor  
semiconservative across RecA homologs and has been  
observed to contain Gly, Gln, Ala, Asn, or Ser

<220>

<221> SITE

<222> (14)

<223> This site is neither invariant nor



semiconservative across RecA homologs and has been observed to contain Ala, Ile, Ser, Thr, Val, Gly, or Leu, and this site is not present in some homologs

<220>

<221> SITE

<222> (18)

<223> This site is neither invariant nor semiconservative across RecA homologs and has been observed to contain Pro, Glu, Met, Phe, Gln, Arg, or Val

<220>

<221> SITE

<222> (19)

<223> This site is neither invariant nor semiconservative across RecA homologs and has been observed to contain Met, Gly, Lys, Arg, Thr, Ala, Pro, or Ser

<220>

<221> SITE

<222> (21)

<223> This site is neither invariant nor semiconservative across RecA homologs and has been observed to contain Arg, Gln, Ser, Gly, Thr, or Val

<400> 3

Ile	Xaa	Thr	Gly	Xaa	Xaa	Xaa	Leu	Asp	Xaa	Ala	Leu	Xaa	Xaa	Gly	Gly
1				5				10						15	

Leu	Xaa	Xaa	Gly	Xaa	Ile	Val	Glu	Ile	Tyr
			20				25		